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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,786	04/21/2006	Benoit Fecamp	154548/0341-071	5922
86661	7590	06/08/2011	EXAMINER	
Potomac Patent Group PLLC			SUERETH, SARAH ELIZABETH	
P.O. Box 270			ART UNIT	PAPER NUMBER
Fredericksburg, VA 22404			3749	
NOTIFICATION DATE		DELIVERY MODE		
06/08/2011		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com  
gpo.mail@ge.com  
andrea@ppglaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,786	<b>Applicant(s)</b> FECAMP ET AL.
	<b>Examiner</b> SARAH SUERETH	<b>Art Unit</b> 3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 March 2011.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 21 April 2006 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No./Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
     Paper No./Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Receipt of applicant's amendment filed on 03/23/11 is acknowledged.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Critchley (6658856) in view of Kanno (6325046) and Maus et al (5428956).
4. Critchley discloses: an acquisition device/sensor configured to sense a temperature at the outlet of the combustion chamber (col. 4, lines 29-33), an electronic data processor (col. 4 line 33, "controller") running a control program including a database of predefined values(col. 4, lines 31-33); a fuel line (62), an air valve (54), said processor using signals from the sensor(s) to regulate the opening of the air valve (col. 4, lines 31-34). Figure 3 shows the air valves connected as claimed to a first section (61) of the combustion chamber, in fluid communication with the outlet of the combustion chamber (64). The air flow (56) is diverted outside of the combustiton chamber as claimed (Fig. 3).
5. Regarding claim 2, there is a temperature sensor (col. 4, lines 29-33).

Art Unit: 3749

6. Critchley, as discussed above, discloses the invention as claimed with the exception of showing one instead of three temperature sensors, and not explicitly teaching a fuel valve or adjusting a fuel valve or a specific database arrangement.

7. Critchley discloses "in order to control the air valve schedule, the control system may be programmed to a predetermined schedule" (col. 4, lines 27-29). While this recitation is regarded as a suggestion to provide a database of predetermined values, Critchley does not explicitly teach that there is a database of values used to control the air or fuel valves that is related to the sensor input.

8. Kanno discloses a controller (82) connected to various sensors (87,40,80). The controller continuously receives input from the sensors, compares their sensed values to a database, and adjusts the air/fuel ratio based on the database values and the sensed inputs (col. 6, lines 9-23).

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley controller to include using a database to adjust the air/fuel ratio in order to accurately control the air/fuel ratio of the apparatus to the desired levels (see Critchley col. 4, lines 27-29 and Kanno col. 1, lines 34-36).

10. Maus shows a similar device including three temperature sensors (4,5 and 6) arranged as claimed inside the combustion chamber (1). Maus shows one embodiment using three sensors (Figure 1), and another embodiment with two sensors (Figure 2). Maus teaches that the additional sensor results in a better temperature reading for the middle of the catalyst (col. 9 lines 4-8).

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley apparatus to include three sets of temperature sensors as shown by Maus, in order to obtain a more accurate catalyst temperature reading (col. 9, lines 4-8).
12. Maus also discloses that the controller preferably controls the amount of fuel flowing into the combustion chamber (col. 8, lines 42-45), which is regarded to suggest the limitation of the controller controlling a fuel valve of some type.
13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley apparatus to allow the controller to adjust the fuel flow in order to easily adjust the fuel/air flow into the burner.
14. As discussed above, Maus appears to show three temperature sensors, not three "sets" of sensors.

However, the courts have held that duplication of parts for amplified effect does not distinguish over the prior art, unless a new and unexpected result is produced (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) , also MPEP 2144.04).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley apparatus by inserting a plurality of temperature sensors in each location, in order to increase the number of data points obtained.

15. Regarding claims 11-13, Maus shows the three sensors in three areas of the combustion chamber as claimed.

16. Regarding claims 7 and 8, Critchley discloses the inlet of the system is joined to a compressor (50), and the outlet is a gas turbine (68).
17. Regarding claims 9 and 10, Critchley does not disclose that the fuel ducts are arranged as claimed, or that there are multiple fuel ducts.
18. Maus discloses multiple fuel inlets (Figure 1, fuel pump 9 supplies four separate fuel inlets) leading into the combustion chamber (2).
19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley apparatus with the multiple fuel ducts as taught by Maus, in order to use a conventional fuel injecting structure.
20. Regarding claims 6 and 17, Critchley does not disclose pressure sensors. Critchley discloses the inlet of the system is joined to a compressor (50), and the outlet is a gas turbine (68).
21. Maus discloses that it was known in the art to measure the pressure in the inlet air duct and the exhaust, and to use the differential pressure to regulate the fuel metering (see col. 4 lines 47-65).
22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley apparatus to include the pressure measurement taught by Maus, in order to use a conventional method of determining the engine performance (see col. 4 lines 47-65).

***Response to Arguments***

23. Applicant's arguments filed 3/23/11 have been fully considered but they are moot in view of the new grounds of rejection above.

***Conclusion***

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARAH SUERETH whose telephone number is (571)272-9061. The examiner can normally be reached on Mondays through Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah Suereth/  
Examiner, Art Unit 3749

/STEVEN B. MCALLISTER/  
Supervisory Patent Examiner, Art Unit 3749